Title (en)

DIGITAL FILTER

Title (de)

DIGITALES FILTER

Title (fr)

DIGITAL NUMERIQUE

Publication

EP 1786102 A1 20070516 (EN)

Application

EP 05774563 A 20050826

Priority

- JP 2005015564 W 20050826
- JP 2004246168 A 20040826

Abstract (en)

An object of the present invention is to provide a digital filter which allows for separately and independently adjusting and designing an intended filter characteristic and a filter characteristic for eliminating noise components. The digital filter is configured to include a main filter section (12), having a transfer function G(z), for applying an intended filter characteristic to an input signal X sampled at a frequency higher than the Nyquist frequency for output; a quantizer section (13) for re-quantizing an output D2 from the main filter section (12) to output an output signal Y; a sub-filter section (14), having an inverse transfer function G -1 (z) from the transfer function G(z) of the main filter section (12), for filtering the output signal Y; a noise shaping section (16) having a transfer function K(z) created by allowing a transfer function W(z) of a low-band rejection filter to be subtracted from 1, the low-band rejection filter having a low-band rejection characteristic in a predetermined frequency band of a noise component including a quantization error Q(z); an addition section (11) for adding the input signal X and an output D5 from the noise shaping section (16) for delivery to the main filter section (12); and a subtracter section (15) for computing the difference between a sum signal D1 and an output D3 from the sub-filter section (14) to supply a differential signal D4 to the noise shaping section (16).

IPC 8 full level

H03H 17/02 (2006.01); **H03H 17/04** (2006.01); **H03M 3/02** (2006.01)

CPC (source: EP US)

H03H 17/0294 (2013.01 - EP US); **H03H 17/04** (2013.01 - EP US)

Citation (search report)

See references of WO 2006022382A1

Cited by

CN104953985A

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 1786102 A1 20070516; JP 2006067150 A 20060309; JP 3909529 B2 20070425; US 2008089454 A1 20080417; WO 2006022382 A1 20060302

DOCDB simple family (application)

EP 05774563 A 20050826; JP 2004246168 A 20040826; JP 2005015564 W 20050826; US 66108805 A 20050826